

an establishing unit configured to establish a communication path for the audio/visual data transmitted from the transmitting node by using a signaling protocol of a network layer, the communication path reaching the receiving node or another data transfer control device connected with the local network;

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a transmission unit configured to transmit a control message containing an information regarding a connection through which the audio/visual data is to be transferred from the transmitting node; and

a commanding unit configured to command the transmitting node to transmit the audio/visual data to the connection by using a communication protocol depending on the global network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 20, 24-29, 37, 38, and 93-95 are pending in the present application and Claims 20, 24, 26, 28, 29, 37, 38 and 93-95 have been amended by the present amendment.

In the outstanding Office Action, Claims 20, 24-27, 29, 37, 38 and 93-95 were rejected under 35 U.S.C. § 103(a) as unpatentable over Keshav et al in view of Eisenhandler; Claims 28, 29 and 37 were rejected under 35 U.S.C. § 103(a) as unpatentable over Keshav et al in view of Ogawa et al; and Claims 20, 24, 25 and 93-95 were rejected under 35 U.S.C. § 103(a) as unpatentable over Keshav et al in view of Kremen et al.

Applicants thank the Examiner for the courtesy of an interview extended to Applicants' representative on February 3, 2003. During the interview, the differences between the present invention and the applied art were discussed. No agreement was reached pending the Examiner's further review when a response is filed. Arguments presented during the interview are reiterated below.

The present invention currently includes independent Claims 20, 28, 29, 37, 38 and 93-95. Each of the independent claims have been amended to recite that a non-IP receiving node is connected with a local network and a transmitting node is connected with a global network. The independent claims also recite that a communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and transmitting node cannot directly communicate with each other. The primary reference used in rejecting the claims is Keshav et al.

Applicants first note that Keshav et al is directed to a processing system for enabling communications between a connectionless network such as the Internet and the connection-oriented network such as an ATM network (see Figures 3 and 4), both of which are global networks. On the contrary, the claimed invention is specifically directed to a data transfer control device between a non-IP node connected with a local network and a transmitting node connected with a global network, where the local network uses a protocol different from the global network so that these nodes cannot communicate with each other directly.

In the system in Figure 3 of Keshav et al, this would correspond to a situation of controlling communications between a node connected with the LAN 333 and a node connected with the Internet 310, which is not a situation to which the Keshav et al is directed. The claimed data transfer control device is connected between a LAN, for example, and the Internet to control communications therebetween. Keshav et al do not teach or suggest this

feature. That is, Keshav et al do not teach or suggest any device between a local network and a global network, but rather teaches a device between two global networks. Further, it is respectfully submitted the additional references of Eisenhandler, Ogawa et al and Kremen et al also do not teach or suggest these features.

Accordingly, it is respectfully submitted independent Claims 20, 28, 29, 37, 38 and 93-95 and each of the claims depending therefrom are allowable.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE CLAIMS

--20. (Twice Amended) A data transfer control device for controlling transfer of audio/visual data to a non-IP receiving node connected with a local network from a transmitting node connected with a global network, the data transfer control device being connected between the local network and the global network and comprising:

an establishing unit configured to establish a connection in the local network;

a transfer unit configured to transfer the audio/visual data transferred through a communication path that is reserved for receiving the audio/visual data transmitted from the transmitting node, to the connection established by the establishing unit; and

a commanding unit configured to command the non-IP receiving node to receive the audio/visual data which is transferred through the connection by the transfer unit, by using a communication protocol depending on the local network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

24. (Twice Amended) The device of claim 20, further comprising:

a collecting unit configured to collect attribute information of the non-IP receiving node; and

a notifying unit configured to notify the attribute information to another data transfer control device belonging to the global network and/or the transmitting node.

26. (Twice Amended) The device of claim 20, further comprising:

a message receiving unit configured to receive a control message containing an information capable of specifying the non-IP receiving node, from another data transfer control device belonging to the global network and/or the transmitting node;

wherein the commanding unit commands a receiving of the audio/visual data to the receiving node as specified by the control message.

28. (Twice Amended) A data transfer control device for controlling transfer of audio/visual data from a transmitting node connected with a global network to a non-IP receiving node connected with a local network, the data transfer control device being connected between the local network and the global network and comprising:

a first establishing unit configured to establish a connection in the local network;

a second establishing unit configured to establish a communication path between the data transfer control device and the global network or a transmitting node belonging to an upper logical network of the global network;

a conversion unit configured to convert a data format of the audio/visual data received through the communication path established by the second establishing unit, from a first data format depending on the global network to a second data format depending on the local network;

a transfer unit configured to transfer the audio/visual data with the data format converted by the conversion unit, to the connection established by the first establishing unit;
and

a commanding unit configured to command the non-IP receiving node to receive the audio/visual data transferred through the connection by the transfer unit, by using a communication protocol depending on the local network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

29. (Twice Amended) A data transfer control device for controlling transfer of audio/visual data from a transmitting node connected with a global network to a non-IP receiving node connected with a local network, the data transfer control device being connected between the local network and the global network and comprising:

a first establishing unit configured to establish a connection in the local network;

a second establishing unit configured to establish a communication path between the data transfer control device and the global network or a transmitting node belonging to an upper logical network of the global network;

an encoding/decoding unit configured to encode/decode the audio/visual data received through the communication path established by the second establishing unit;

a transfer unit configured to transfer the audio/visual data encoded/decoded by the encoding/decoding unit, to the connection established by the first establishing unit; and

a commanding unit configured to command the non-IP receiving node to receive the audio/visual data transferred through the connection by the transfer unit, by using a communication protocol depending on the local network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

37. (Twice Amended) A relay device for transmitting a received data from a transmitted node connected with a global network to a non-IP receiving node connected with a local network, comprising:

a receiving unit configured to receive a control message requesting an encoding/decoding of the received data in a data format depending on the local network; and

a transmission unit configured to encode/decode the received data from global network according to the control message received by the receiving unit, and to transmit encoded/decoded data to the local network,

wherein a communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

38. (Twice Amended) A control device connected between a local network and a global network, comprising:

a collecting unit configured to collect attribute information of transmitting and/or non-IP receiving nodes connected with the local network, according to a protocol depending on the local network; and

a notifying unit configured to notify the attribute information to a device connected with the global network, according to a network layer protocol not depending on the local network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving nodes and the transmitting nodes cannot directly communicate with each other.

93. (Amended) A data transfer control device for controlling transfer of audio/visual data to a non-IP receiving node connected with a local network from a transmitting node

connected with a global network, the data transfer control device being connected between the local network and the global network and comprising:

an establishing unit configured to establish a connection in the global network for transmitting the audio/visual data;

a reserving unit configured to reserve a communication path for transferring the audio/visual data transmitted through the connection to another data transfer control device belonging to the local network and/or the receiving node; and

a commanding unit configured to command the transmitting node to transmit the audio/visual data through the connection, by using a communication protocol depending on the global network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

94. (Amended) A data transfer control device for controlling transfer of audio/visual data to a non-IP receiving node connected with a local network from a transmitting node connected with a global network, the data transfer control device being connected between the local network and the global network and comprising:

an establishing unit configured to establish a communication path for the audio/visual data transmitted from the transmitting node by using a signaling protocol of a network layer, the communication path reaching the data transfer control device from the transmitting node or another data transfer control device connected with the global network;

a receiving unit configured to receive a control message containing an information regarding a connection through which the audio/visual data is to be transferred to the non-IP receiving node; and

a commanding unit configured to command the non-IP receiving node to receive the audio/visual data transferred through the connection, by using a communication protocol depending on the local network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.

95. (Amended) A data transfer control device for controlling transfer of audio/visual data from a transmitting node connected with a global network to a non-IP receiving node connected with a local network, the data transfer control device being connected between the local network and the global network and comprising:

an establishing unit configured to establish a communication path for the audio/visual data transmitted from the transmitting node by using a signaling protocol of a network layer, the communication path reaching the receiving node or another data transfer control device connected with the local network;

a transmission unit configured to transmit a control message containing an information regarding a connection through which the audio/visual data is to be transferred from the transmitting node; and

a commanding unit configured to command the transmitting node to transmit the audio/visual data to the connection by using a communication protocol depending on the global network,

wherein the communication protocol of the local network is different than a communication protocol of the global network such that the non-IP receiving node and the transmitting node cannot directly communicate with each other.--